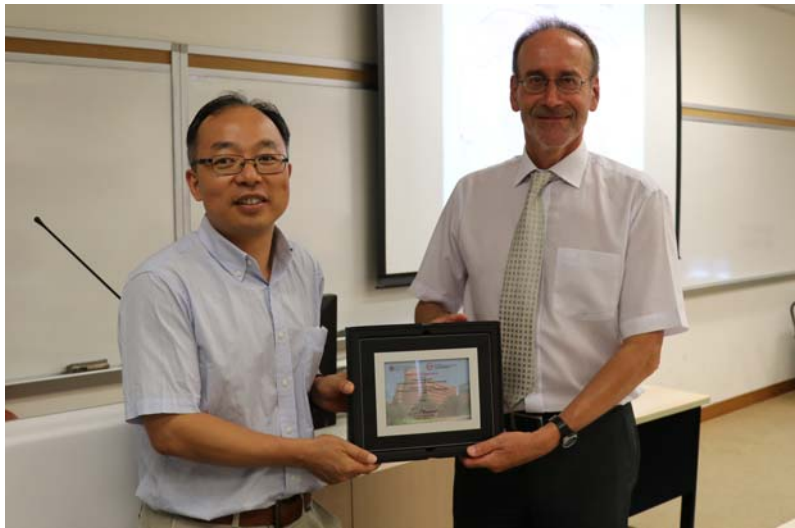


LSGI Distinguished Lecture Series

“Research at GFZ to monitoring natural hazards and global change”

Overview

It was our pleasure to invite Professor Harald SCHUH, Director of Department 1 ‘Geodesy’ at Helmholtz-Zentrum Potsdam, GFZ German Research Centre for Geosciences, Germany, to deliver a seminar of the LSGI Distinguished Lecture Series on 23 July 2018.



Biographies

Prof. Dr. Dr. h.c. Harald Schuh is the elected President of the International Association of Geodesy (IAG), Past President of the IAU commission 19 “Rotation of the Earth”, and was the Chair of the International VLBI Service for Geodesy and Astrometry (IVS) from 2007 to 2013. He has engaged in space geodetic research for more than 30 years with special focus on VLBI (Very Long Baseline Interferometry) and Earth rotation. Since 2012, he is the Director of Department 1 “Geodesy” at the Helmholtz Centre Potsdam, GFZ German Research Centre for Geosciences in Potsdam, Germany, and professor for “Satellite Geodesy” at Technische Universität Berlin. Harald Schuh is author or co-author of about 390 publications and editor of more than one dozen of scientific books and proceedings with the main subjects VLBI, Earth rotation, geodynamics, geodetic reference frames, troposphere, and ionosphere.

Research at GFZ to monitoring natural hazards and global change

The definition and realization of precise and stable reference frames play an important role in modern geodesy, as they are required when we want to monitor changes on the Earth such as plate tectonics or global sea level rise. This fact was recognized by United Nations in 2015 by approving a corresponding UN-Resolution on GGRF, the Global Geodetic Reference Frame. An overview of the various natural hazards and global change phenomena that are observed by geodetic techniques at GFZ, The German research Center for Geosciences, will be given. Depending on the spatial scale, various types of measurements can be used, from space geodetic techniques such as GNSS (Global Navigation Satellite Systems), SLR (Satellite Laser Ranging), VLBI (Very Long Baseline Interferometry), and DORIS (Doppler Orbitography and Radiopositioning Integrated by Satellite), to local measurements by geodetic surveying instruments. All these techniques are combined in GGOS, the Global Geodetic Observing System of the IAG (International Association of Geodesy), and the concept of this integrative enterprise will be described. Case studies of research done at GFZ will be presented that document the essential role of precise geodetic data, accurate analysis methods, and realistic mathematical and physical models.